

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

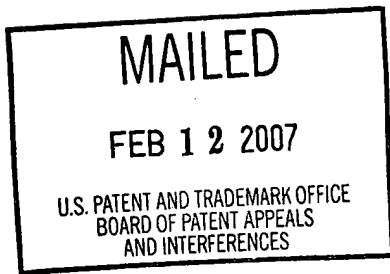
---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

*Ex parte* MARK G. LUEHRMANN, MARY E. RUPP,  
MARK D. O'LEARY, LLYA L. PIRANER,  
JOHN M. MILLER, WILLIAM D. McNULTY  
and CHERYL KLEPSE

---



Appeal No. 2006-1659  
Application No. 09/856,745

---

ON BRIEF

---

Before OWENS, BAHR and LEVY, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

*DECISION ON APPEAL*

The appellants appeal from a rejection of claims 26-35,  
which are all of the pending claims.

*THE INVENTION*

The appellants claim an engine cylinder piston and connecting rod assembly, and a connecting rod for use in an engine cylinder piston. Claim 26 is illustrative:

26. An engine cylinder piston and connecting rod assembly comprising:

a piston;

a connecting rod;

a piston pin constructed and arranged for connecting together said piston and said connecting rod, said piston pin being subjected to a load during reciprocation of said connecting rod, resulting in piston deflection; and

wherein said connecting rod having a first portion assembled into said piston and defining a bore for receipt of said piston pin, said connecting rod having a first end and an opposite second end, said bore extending between said first end and said second end, said connecting rod including as part of said bore a first profiled bore section adjacent said first end and a second profiled bore section adjacent said second end, each of said first and second profiled bore sections being constructed and arranged with a size, shape, and location so as to approximate the deflection shape of said piston pin under load.

*THE REFERENCES*

Justinien et al. (Justinien)	3,161,185	Dec. 15, 1964
Fangman	3,479,929	Nov. 25, 1969

*Tool Engineers Handbook* 1228-29 (Frank W. Wilson, 1<sup>st</sup> ed., McGraw-Hill 1949).

*THE REJECTIONS*

The claims stand rejected under 35 U.S.C. § 103 as follows: claims 26, 27, 29, 31, 32 and 34 over Justinien in view of Fangman, and claims 28, 30, 33 and 35 over Justinien in view of Fangman and Tool Engineers Handbook.

*OPINION*

We reverse the aforementioned rejections.

Justinien discloses internal combustion engine piston pins or rods (8) that are elastically connected to a connecting rod (14<sup>2</sup>) to dampen vibrations (col. 1, lines 32-36; col. 2, lines 36-42; col. 3, lines 9-11). A bore in the connecting rod engages the periphery of a central ring (14) such that the connecting rod may rotate around the central ring (col. 3, lines 35-39). To provide permanent engagement between the central ring and the elastic pins or rods, the longitudinal cross-section of the central ring has a radius of curvature (14') that corresponds to the maximum radius of curvature of the vibration dampening elastic pins or rods when they bend (col. 3, lines 39-43).

Fangman discloses a piston pin having an I-beam shape, i.e., arcuate upper (19) and lower (21) surfaces joined by concave surfaces along its length (23, 25) and across its ends (27) (col. 1, lines 19-22 and 56-58). A connecting rod (piston rod 15) has

Appeal No. 2006-1659  
Application No. 09/856,745

an aperture (22) shaped to receive the I-beam-shaped piston pin (col. 1, lines 60-61). The I-beam-shaped piston pin is deformable during use to evenly distribute the connection stresses (col. 1, lines 37-39; col. 2, lines 15-22).

The examiner argues that Fangman's disclosure of a pin received in a connecting rod (col. 1, lines 60-61) would have fairly suggested, to one of ordinary skill in the art, making Justinien's central ring (14) and connecting rod (14<sup>2</sup>) integral to decrease the number of parts and thereby decrease the amount of assembly required to manufacture the device (answer, page 3). The modification of Justinien proposed by the examiner would eliminate Justinien's required rotatability of the connecting rod (14<sup>2</sup>) around the central ring (14) (col. 3, lines 38-39). The examiner has not established that one of ordinary skill in the art would have expected Justinien's device to function as desired without that rotatability.

The examiner does not rely upon Tool Engineers Handbook for any disclosure that remedies the above-discussed deficiency in Justinien and Fangman.

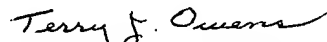
For the above reasons we conclude that the examiner has not established a prima facie case of obviousness of the appellants' claimed invention.

Appeal No. 2006-1659  
Application No. 09/856,745

DECISION

The rejections under 35 U.S.C. § 103 of claims 26, 27, 29, 31, 32 and 34 over Justinien in view of Fangman, and claims 28, 30, 33 and 35 over Justinien in view of Fangman and Tool Engineers Handbook, are reversed.

REVERSED

  
TERRY J. OWENS

Administrative Patent Judge )



JENNIFER D. BAHR  
Administrative Patent Judge )



STUART S. LEVY  
Administrative Patent Judge )

) BOARD OF PATENT  
) APPEALS  
) AND  
) INTERFERENCES

Appeal No. 2006-1659  
Application No. 09/856,745

James M. Durlacher  
Woodard, Emhardt, Naughton, Moriarty  
& McNett  
Bank One Center Tower Suite 3700  
111 Monument Circle  
Indianapolis, IN 46204-5137

TJO/ki